

# Other Categories Using SCR System

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- OFCI Products
- Light-Duty Vehicle (LDV) /  
Medium-Duty Vehicle (MDV)  
Chassis Products

# OFCI Products

# OFCI Issue

## Safe Harbor Issue

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- Safety Issues for equipment/operator
- Possible Types of Engine Inducements:
  - Zero work for the equipment
  - Idle-Only
  - Forced Shut-down
  - Limited Re-starts

# OFCI Issue

## Repeated Offenses:

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- **GOAL:** Discourage repeat tampering and repeat use of poor quality reductant
- **KEY POINTS:**
  - System should monitor for repeat faults for a minimum of 40 engine hours or minimum of 160 real-time clock hours
  - Return to final inducement for repeat offense within
    - 60 minutes
  - Repeat offense
    - Any 2nd offense

# OFCI Issue

## Delegated Assembly

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- **GOAL:** All system components designed to comply and installed in certified configuration
- **KEY POINTS:**
  - Components to be considered in addition to other devices:
    - Reductant storage (configuration and volume)
    - Freeze protection system
    - How SCR inducement triggers are affected

# OFCI

## Questions / Answers

# Compression-Ignition and Heavy-Duty Certification

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# LDV/MDV Chassis



# Reductant Level

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**Goals:** Minimal vehicle operation when SCR system is no longer able to dose

## Key Points:

- Reductant level is indicated to operator
- Initiate inducement early enough so that final inducement is engaged prior to noncompliance
- Any driver inducement should account for safety concerns
- Notify operator at least twice prior to final inducements

## Inducements:

- The specific strategy is at the manufacturer's discretion but the operator should be warned.
- Several options for final inducement.

# Reductant Level

## Example 1

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**Step 1:** When sufficient reductant remains in the reductant tank corresponding to the reductant quantity required for driving the range of four diesel fuel tankfuls, warning signals consisting of a reductant light and audible chimes should begin to alert driver of low level of reductant remaining.

# Reductant Level

## Example 1

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**Step 2:** When sufficient reductant remains in the reductant tank corresponding to the reductant quantity required for driving the range of two diesel tankfuls, a noticeable vehicle speed limitation would be imposed and would continue until the next trigger is reached.

# Reductant Level Inducements

## Example 1-con't

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### Step 3:

#### *When*

- The tank reads empty to the operator but sufficient reductant remains in the reductant tank corresponding to the reductant quantity required for driving the range of one diesel fuel tankful.
- A more significant vehicle top speed limiter occurs.

#### *Then if one of the following occurs*

- Diesel fuel refueling (must be defined)
- Vehicle parked or idled (must define)
- Vehicle restarted

Final inducement is activated (e.g., 5 mph top speed, idle only, no start).

# Reductant Quality

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- Frequent reductant quality assessments must be made.
- Examples presented earlier are appropriate for the LDV/MDV category with vehicle speed limitations replacing engine derates and mileage limits (added to) time limits.

# Tampering

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- Other tampering deterrents may be acceptable
- The disconnection of any sensor that stops the flow of reductant should trigger inducements
- Examples presented earlier are appropriate for the LDV/MDV category with vehicle speed limitations replacing engine derates and mileage limits replacing (or added to) time limits.

# LDV / MDV Chassis

## Questions / Answers

# On- Road Light Duty Certification

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